

ABSTRACT

This invention relates to methods of controlling gene silencing using site-specific recombination. A variety of constructs are provided which are useful for conditional or regulated gene silencing in plants, comprising a suite of constitutive, inducible, tissue-specific or developmental stage-specific promoters operably linked to target sequences (TS). Recombinase inversion or excision yields double-stranded TS RNA, which thereby functions to trigger endogenous gene silencing mechanisms. By matching promoters, responsive to various inducers, plant tissues or plant developmental states with the recombinase systems, transcriptional stop fragments or introns and target sequences, gene silencing of virtually any target sequence may be modulated at any plant development stage or in any plant generation. This is especially useful, when genes responsible for gene silencing are down-regulated to permit expression of particular transgenes at levels greater than permitted when gene silencing is activated.